

Artisan's dwellings / by Francis Hooper.

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CONGRESS AT BRIGHTON, 1890.



ARTISANS' DWELLINGS.

BY

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On "Artisans' Dwellings," by FRANCIS HOOPER, A.R.I.B.A.
Read at the Congress of the Institute held at BRIGHTON.

THE construction of "Artisans' Dwellings" is a subject well deserving the attention of the architectural section of this Congress, not alone in reference to sanitary fittings and drainage, but also with regard to locality, surroundings, and disposition of plan, comprehending as these dwellings do the housing of a vast section of the entire population.

It is not necessary for me to enlarge upon the present grievously unsanitary conditions of the houses occupied by large numbers of artisans and their families in our densely crowded cities—conditions incidental not solely to overcrowding, but to the fact that houses old and dilapidated, constructed often for a class of tenants whose circumstances were entirely different to the present occupants, and render the accommodation quite inadequate to the requirements of humbler households.

The provision of healthful and comfortable "*homes*" should be the aim of all who undertake the housing of artisans.

Many of my audience must have observed the spreading fashion for the erection of so-called model tenement dwellings; I use the word "fashion," but might be more correct in calling it "fever," as speculators have found that here, for the present at least, money is to be made, and building plots small and large, suitable and unsuitable, are being covered with residential flats and artisans' dwellings, which I believe will be found dangerous encumberers of the ground very soon after the brightness of the tuck-pointing outside and of the machine-printed wall-papers inside has worn off.

Regarding the general question of housing artisans in large towns, many economies are effected in tenement buildings, in that, one roof, one drain, one staircase, one water and gas service, suffice for many households, and whilst all are in good order all benefit alike; but should accident occur, defect arise, water fail, a drain choke, or a fever break out, the evils spread, and all are liable to suffer. It is most essential therefore that in such thickly populated buildings, which are sometimes as much as six storeys high, the sanitary arrangements should be of the best construction, and all apparatus and fittings of the most substantial kind. Hence I view with more anxiety the activity of the private speculator in tenement dwellings, than of those who erect villas in our suburbs the ill-repute of which has long ago become a by-word.

RELATION OF RENT AND WAGES.

In considering the structural requirements of "Artisans' Dwellings," it is necessary to determine the class of artisans whose requirements are to be met, as the accommodation and household fittings are regulated by the rents obtainable from the tenants. I propose now to confine my remarks to block or tenement buildings in thickly-populated towns suitable for artisans whose weekly wages range from 30s. to 50s.

Evidence given before the "Royal Commission on the Housing of the Working Classes, 1885," goes to show that in a large district in London, where special enquiry was made, upwards of 88 per cent. of the working men were found to pay more than one-fifth of their earnings in rent, and that the average rent of one room, let as a separate tenement, was 3s. 10 $\frac{3}{4}$ d.; of a two-roomed tenement, 6s.; of a three-roomed tenement, 7s. 5 $\frac{1}{4}$ d. The Report of the Commission adds, "Corroborative evidence is not wanting that the witness erred, if at all, on the side of moderation."

The scope of my subject is therefore confined to tenements rented from 6s. to 10s. per week; and here it may be well to remark that the weekly income of an artisan with a family is not arrived at by simple enquiry as to the amount he himself earns; for in an industrious family not only the wife, but frequently the elder children, contribute to the weekly earnings.

SELECTION OF BUILDING SITE.

In selecting a site for Artisans' Dwellings, it is of the highest importance to secure sufficient area, well-drained subsoil, and suitable shape.

From measurement of the best-arranged buildings of this class, I find that these occupy on an average about one-third of the entire site, thus leaving two-thirds for air, light, approaches, and recreation.

It is important, from a commercial point of view, that the buildings should be in proximity to the factories, wharves, or other places affording employment for the tenants, or that cheap and rapid means of transit either by rail, omnibus, or tram-car, should exist.

OPEN SPACES.

It would appear from an inspection of a large number of existing dwellings erected both by private individuals and limited liability companies, that the front of every block should

either abut upon, or else face a public thoroughfare, and thus afford a more cheerful outlook than the alternative courtyard. It further seems that where no rights of light exist to limit the height of building, builders are tempted to carry up their work to a height which seriously injures the light and wholesomeness of the lower tenements.

Where buildings occupy more than two sides of any enclosed space, it is most desirable to avoid the abutting of two buildings at the angles, which invariably darkens certain of the staircases and rooms, and to leave an open space between to permit the free circulation of air, and avoid stagnation, which tends to create disease.

It is not always possible for the architect to choose the aspect of his building, but an attempt should be made to secure frontages to east and west, so that the windows may receive the horizontal rays of the sun, whilst the vertical rays strike down into the courtyard and street.

APPROACHES AND ENTRANCES.

The development of any large scheme usually involves the repetition of a certain arrangement of rooms around a common staircase, which gives access to the several tenements, each of which, as far as possible, is self-contained.

The entrance may be formed at the back or front of the block, but where the staircase is built against an outer wall there are certain advantages in having the entrance at the back, as the stairs are more private, and the whole of the front wall is available for rooms.

In such cases the courtyard is entered by an archway through the front block, and the tenants are more directly under the control of the superintendent, whose office may be at one side of the principal entrance.

The several blocks will vary from 28 ft. to 36 ft. in depth, according to plan, and the frontage from 45 ft. to 75 ft.

HEIGHT OF BUILDINGS.

The height of the buildings should not exceed five storeys above the ground, on account of fatigue in ascent and obstruction of light and air. Shops may occupy the ground floor in busy thoroughfares, and will probably be let in conjunction with a cellar below, or perhaps a tenement behind or above, thus helping to augment the revenue.

COURTYARDS.

The courtyards may with advantage be levelled, and spread with a 9 in. layer of cement concrete, laid to falls for drainage, and finished on the surface with a coating of compressed natural asphalt or tar-paving, which latter is fairly efficient and much the cheaper of the two materials.

STAIRCASES.

The staircases should be built against an outside wall, so that ample windows may light them and that a shaft may be avoided, which would spread fire upwards should such break out in the building.

Fire-resisting materials should in all cases be used for staircase construction, and for this purpose gas breeze concrete is more reliable than stone, for both treads and landings.

The height of the storeys in the clear should be about nine feet; thus, if the rise be seven and a half inches, two short flights of eight steps will extend from floor to floor, and the tread with nosing need not exceed eight inches.

The width of the staircase should be not less than six feet nine, which, with a nine inch brick newel, will allow of treads three feet wide; winding steps should on no account be tolerated, being both dangerous and difficult to light.

A solid newel should always be introduced, as it increases the strength of the stairs by giving the treads a bearing at either end; offers resistance to, and mitigates the spread of fire from floor to floor by the staircase well; prevents tenants from seeing one another and talking from floor to floor, and thus adds much to the quietness and privacy of the building.

OPEN BALCONIES.

With a view to reduce the number of staircases, and to avoid the formation of internal corridors of approach to several tenements, external galleries or open balconies have in many instances been constructed, but these must on no account be arranged on the side next a public thoroughfare, nor should the balconies of two parallel blocks be towards each other.

This arrangement can not, however, be commended as the rooms are deprived of much light, and unless the rooms are entered directly from the balcony, there is of necessity a loss of floor space by the formation of a passage-way.

INTERNAL CORRIDORS.

Internal corridors are specially to be avoided, as they are most difficult to light, and are consequently but rarely kept clean. They further afford shelter for loafers and gossipers, and hence are morally injurious.

It is well that the window openings upon the staircase should be unglazed, in order to secure ample ventilation, and to prevent the transmission of foul air or disease; each opening being protected by a strong iron guard-rail.

The walls of the staircases should be lined with some hard impervious substance which can be readily washed.

Glazed bricks are very efficient, but a tinted granolithic cement dado 4 ft. high presents a more homely effect, the wall above being plastered and coloured.

A strong handrail should be provided, and may be formed of $1\frac{1}{2}$ in. wrought iron gas-piping in straight lengths fixed about 2 in. from the wall by means of short brackets.

The front door of each tenement should open immediately upon the staircase landing, and, where space permits, an entrance lobby should be provided to increase the privacy of each dwelling.

A good average height from floor to floor is 10 feet, giving about 9 feet in the clear; and, bearing in mind that the Public Health Act requires 300 cubic feet of air for each adult, and 150 feet for each child, as a minimum in the sleeping room, it is necessary to provide floor space equivalent to at least 6 ft. 6 in. by 5 ft., and 5 ft. by 3 ft. 3 in. respectively.

SHOOTS FOR DUST AND ASHES.

Shoots for the disposal of household dust and ashes may suitably be formed in the corner of the half-landings of the stairs. These shoots should be shafts about 9 in. by 9 in., formed in the brickwork rendered internally in cement, discharging at the bottom into a dust cellar or a movable receptacle, and continued up through the roof for ventilation. The hopper-door on each half-landing should have side cheeks and a metal flap inside to prevent the dust from being blown back before the door can be closed, thus making dirt and litter on the stairs, and it also should be made self-closing.

Each landing should be lighted at night with a gas jet of about 20-candle power; the frame of the lamp being easily removable for cleaning and repairs. A very neat pattern, used by the Improved Industrial Dwellings Company, consists simply of a front hooked on to buttons on the wall; the glass

is in narrow slips, not puttied in, but secured in a groove, and the enclosure is ventilated by a short pipe carried through the concrete landing above, and finished on the top with a metal hood.

INTERNAL ARRANGEMENT OF TENEMENTS.

The internal arrangement of the tenement should as far as practicable assimilate to that of a well-planned country cottage, the size and number of rooms depending upon local circumstances, wages, and requirements.

Single-room dwellings are in request in some districts, but I find in the Peabody Buildings in Westminster most of the single rooms have been let together in pairs, the largest demand being for two and three rooms, which, for economy of space, are arranged to open the one from the other.

A convenient size for the living-room or kitchen is eleven feet wide by thirteen feet from front to back; the fire-place being so placed as to allow of a bedstead at the back of the room, if required. The windows should be of ample width (three feet six inches at the least) and should extend to within six inches of the ceiling to obtain the utmost light and ventilation. The sashes may be made in three heights; the lower being fixed for the protection of children, obscured glazing answering as a window blind; whilst the upper ones are double, hung with pulleys and weights. The cooking-range should not be less than 3 ft. in width, and fitted with an oven; all parts subject to heavy wear, such as the fire-bars, draw-out fret, drop-bars, trivet, etc., being of wrought iron. The following fittings should also be provided: a fixed dresser, with shelves and cup rails; a food store, ventilated if possible from the external air; a coal-bunker, formed with a sliding door or top flap; a sink of Bristol glazed ware; a wooden drainer; and a plate-rack.

In the Peabody Buildings and many others of similar type the sinks as well as the w.c.'s are on the staircase landings, used jointly by the occupants of two or more tenements, and open to the constant inspection of the superintendents.

LAUNDRIES.

In addition to the sinks, a laundry is frequently provided on each storey for the general use by turn of the several tenants, furnished with one or more coppers, and teak or stoneware washing-troughs, and, as in some of the recently erected buildings of the "Artisans, Labourers, and General Dwellings

Company," an enamelled fire-clay bath is also provided, to which cold water is laid on, hot water being obtained by each tenant from a copper. From many enquiries I find that baths are but little appreciated, and appear likely to continue so with the present race of tenants.

In order to obviate annoyance from the smell and escape of steam from these laundries, the Improved Industrial Dwellings Company have for a long time past been constructing them on a large scale, on the flat roofs of their buildings, where steam freely escapes, and there is ample space around for drying the wet linen. This example has been followed by the Peabody Trustees in their buildings in Peter Street, Westminster, where, in addition, is provided a covered drying-ground, which can be kept under lock and key and used by the tenants in turn for 24 hours, viz., 8 a.m. to 8 a.m., and is much appreciated by them.

The Trustees still provide only one w.c. and sink between two families, whereas the former Company appears to make it a principle that each tenement shall have its w.c. and sink contained within itself.

Two distinct arrangements of plan are shown in the accompanying illustrations (page 208). In the one case the sink is placed in an enclosure opening from the living-room, having a window, and comprising also a food and coal store, whilst the w.c. is entered from a lobby, and is both lighted and ventilated by a window to the outer air over that of the sink enclosure.

In the second case the front enclosure of the living-room is set back from the general wall-line to form a balcony, upon which is the w.c., coal store, &c.

The entrance-lobby, which adds greatly to the privacy and comfort of the tenement, should be provided with hat and coat hooks, and the rooms should have wooden rails on the walls for pictures or prints, to prevent as far as possible injury caused by driving nails into the plastering.

BED-ROOMS.

The bed-rooms will vary in size, but one at least should be as large as 13 ft. by 9 ft., and a hanging closet for clothing should be provided in each. Fanlights over the doors prove most useful ventilators, and if glazed with obscured glass prevent dark passages. Every bed-room should have a fireplace so planned as to allow a clear space round the bed of at least twelve inches, and the grates should be of fire-lumps, with fuel space of about 8 in. by 4 in. and 10 in. deep, the mantel and shelf being of cast iron, as the most durable material for such buildings.

I found in some dwellings in Rouen gas services provided

for cooking ; a provision which I consider worthy of imitation in this country.

In many buildings Venetian blinds are provided by the proprietors ; these present a more tidy and uniform appearance externally than roller blinds, and are a source of economy to the tenant, who would otherwise have almost invariably to provide himself with new roller blinds on entering.

Each front door should be provided with a strong lock, varying in pattern throughout the building ; also with knockers and spring letter-plates, and should be legibly numbered.

Window-gardening may be encouraged by providing wide sills, on which pots and flower-boxes may be placed, thus assisting to relieve the monotony of the *façade*.

ROOFS.

Where roofs are flat, the staircases should give direct access to them, and should be finished with a solidly-constructed bulk-head.

Close guard-rails should be fixed around the roofs at least 5 ft. in height, mounted on a solid parapet, for the protection of children and adults.

The construction should be of iron joists, cement and coke-breeze concrete, finished on the top with asphalt or tar-paving. The surface should be laid to sufficient falls to secure ample drainage ; the floors of the laundries, when constructed on the roof, should have channels to carry off the water quickly from the troughs, &c., wooden lattices being provided for the women to stand upon whilst at their work.

The general unsightliness of a flat-roofed building has been mitigated by the Improved Industrial Dwellings Company in their new buildings near Grosvenor Square, by constructing the topmost storey with an almost vertical mansard roof, covered with tiling, above which is the stone curb carrying the guard-rail, supported by an iron purlin running parallel with the front wall.

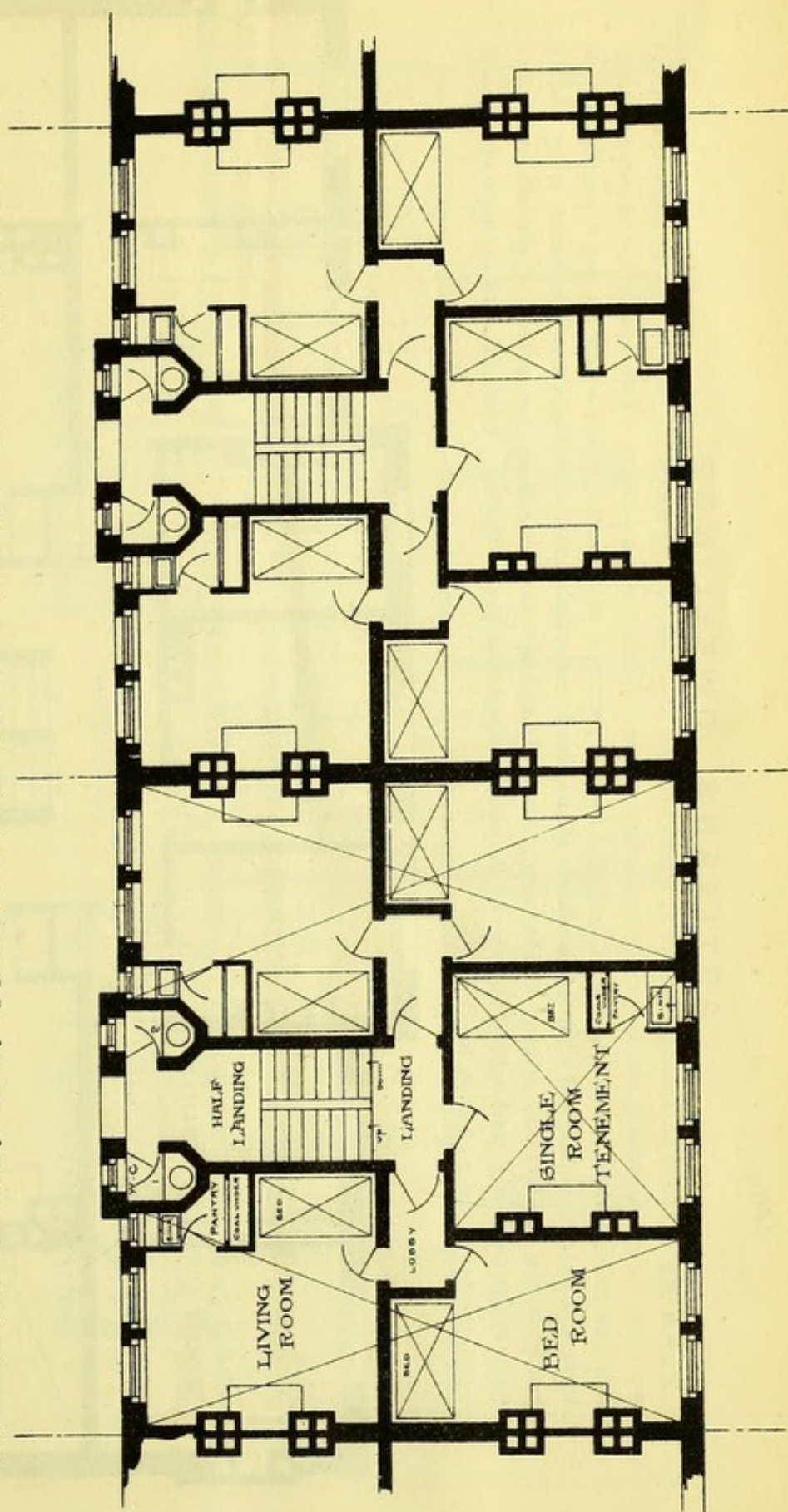
WATER TANKS.

The water storage-tanks, constructed of galvanized iron, may find their place on the flat roof, and should afford a supply of about 40 gallons for each tenement. Each tank should have a brick enclosure for protection against frost, and should be so raised from the roof that it may be emptied onto the roof either for flushing the drains below or for periodical cleansing.

Stout galvanized iron hooks should be built into the chimney-stacks at proper heights for securing the clothes drying-lines.

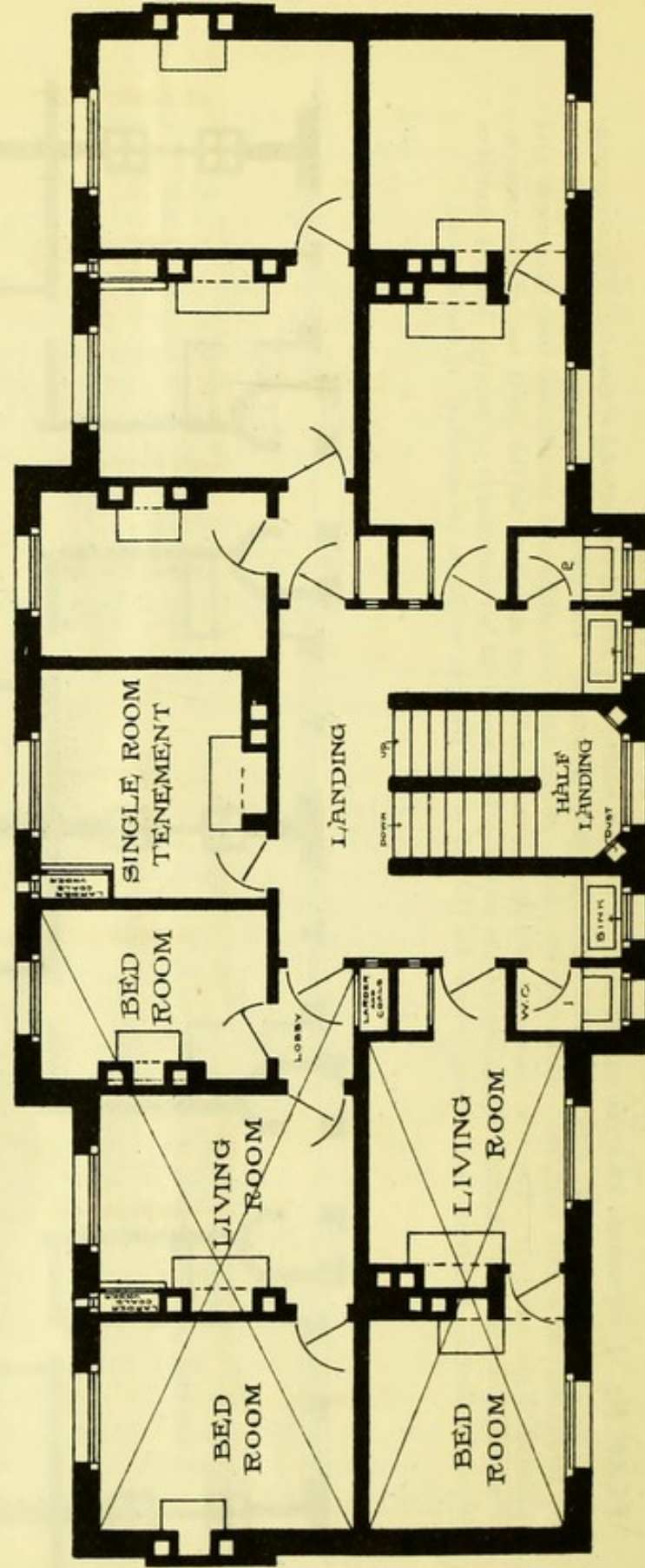
ARTISANS DWELLINGS.

PLAN No. 1 represents an arrangement of five rooms in each storey around the general staircase. The accommodation consists of two two-room tenements and one single-room tenement. Each room has a recess for bedstead and each tenement has a sink with cold water service; food, china, and coal cupboard partitioned from the room and ventilated to the outer air. Two w.c.'s are provided on the half landing of staircase for the joint use of the tenants. The arrangement affords through ventilation to the rooms and it would be advantageous to provide hinged fanlights over all the doors. A laundry and drying ground for the use of the tenants would be constructed on the flat roof.



ARTISANS DWELLINGS.

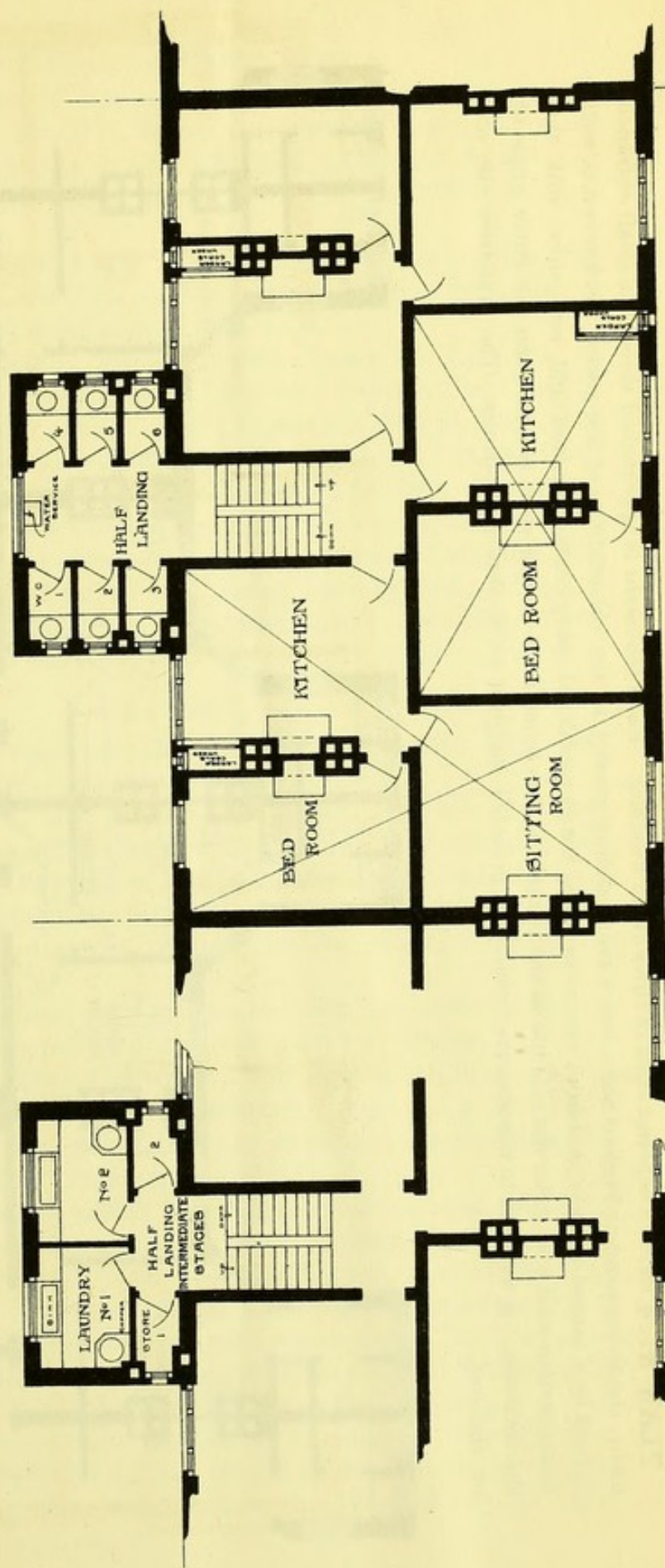
PLAN No. 2 shows an arrangement of 11 rooms on each floor around the staircase. The accommodation consists of two three-room tenements, two two-room tenements and one single-room tenement. Two enamelled stoneware sinks with cold water service and two w.c.'s are provided for the joint use of tenants. Each tenement has a ventilated food china and coal cupboard, and with the exception of the single room tenement, each has a small entrance lobby adding greatly to the comfort and privacy of the occupants. Dustshoots are formed in the angles of the staircase, the treads of the stairs are well lighted and the walls could be lined with glazed bricks. A laundry and drying-room should be constructed in the roof as in No. 1.



Laundries and Drying-room
on Flat Roof

ARTISANS DWELLINGS.

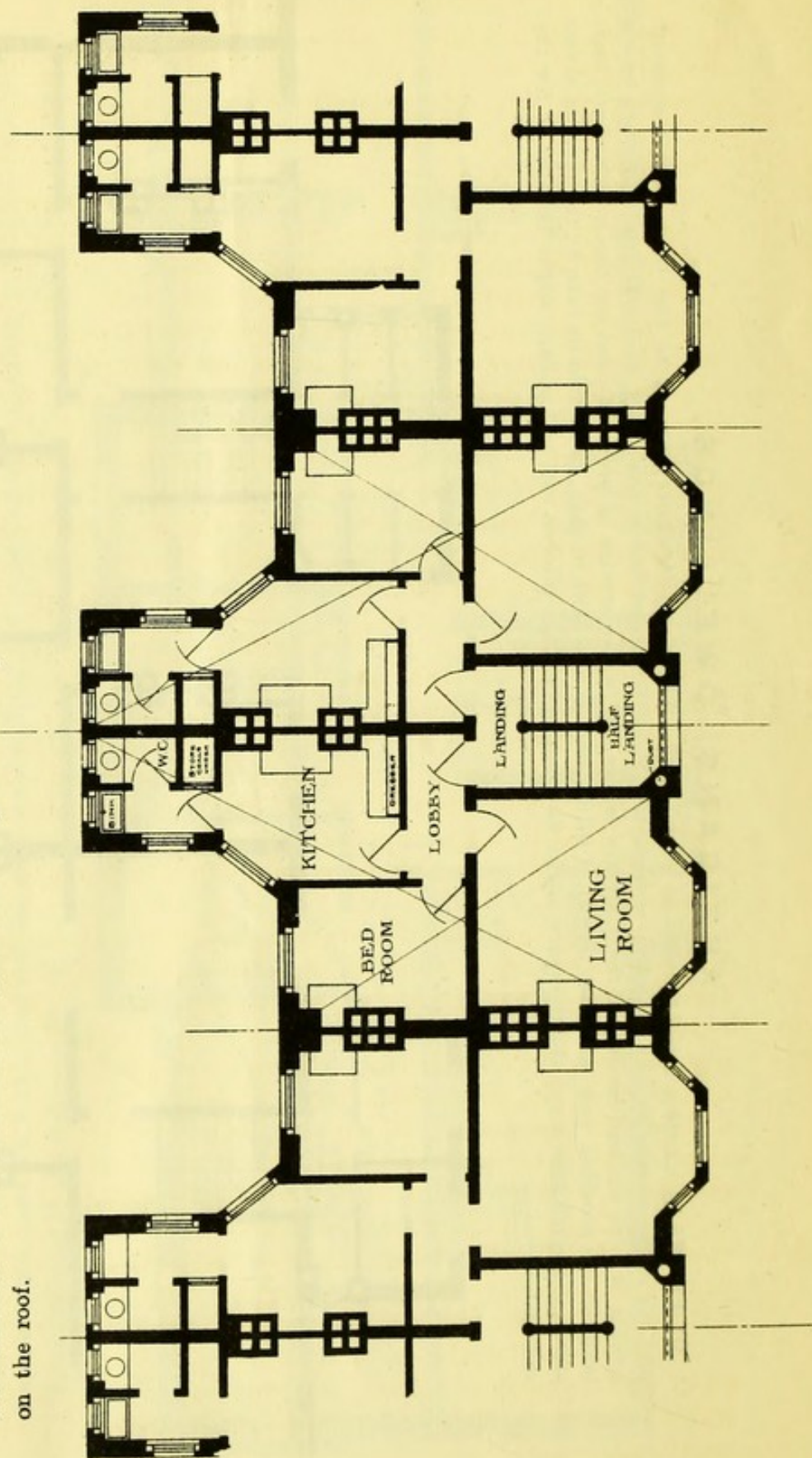
PLAN No. 3 comprises eight rooms on each storey. These may be either grouped as two three-room tenements and one of two rooms, or four two-room tenements. Each tenement has a ventilated food and coal cupboard and a private w.c. on the half-landing of the staircase where the water service is provided; and on the intermediate half-landings are provided two laundries furnished with a copper and sink in each, to be used by turn by the tenants of two stories. Drying-rooms and storage space might be afforded in a low pitched roof and cellars might be formed for the storage of coal.



Basement contains Coal Cellars.
Flat pitched Roof contains
Drying rooms and Store space.

ARTISANS DWELLINGS.

PLAN No. 4 shows a superior class of three-room dwelling. Each tenement is approached through a small entrance lobby, the living room or Parlour has a bay window adding greatly to the cheerfulness of the room, the kitchen is well lighted by a canted window, and from this room opens a well ventilated space containing food and coal store, sink and water service with a w. c. for the sole use of the tenants of this tenement. A dust-shaft is formed on the outer angle of the staircase. A wide eill to the staircase window is provided for pots of flowers and shrubs. The laundries etc. are on the roof.



GENERAL CONSTRUCTION.

The external walls, if not more than the height suggested, namely five storeys of 10 ft. each, will not require to be more than one and a half bricks in thickness above the first-floor level.

The bricks should be hard and square, and the mortar joints weather-pointed.

Gas-breeze and cement cast in moulds is now largely used for external lintols, sills, strings, and copings, and may be relieved with a simple incised ornament on the face.

In floor construction, some persons insist on the use of iron joists in one length between back and front walls, filled in with breeze concrete; whilst others maintain that timber with a good plaster below is sufficiently fire-resisting: the rarity of fire in such buildings being some justification for this contention. Where timber construction is used, the floors should be well pugged, to prevent the transmission of sound. Tongued and grooved floor-boards should in all cases be employed as being more easily kept clean than straight-jointed boarding-joints, which soon open and harbour dirt.

DRAINAGE.

The drainage system should be of the simplest kind and executed with the greatest possible care.

The soil-drains in the yards, &c., should not be less than 6-inch glazed stoneware socketted pipes, jointed in cement, laid on a bed of concrete to a fall of not less than $2\frac{1}{2}$ inches to 10 feet, with ventilated inspection pits at every bend, and an intercepting chamber as close as possible to the junction with the street-sewer.

The stack-pipes should be of galvanised cast iron, with socketted and caulked joints, connected directly with the drains, and continued some 7 feet above the roof as ventilators. These may be made to serve also as rain-water pipes, by means of a species of movable ventilated bell-trap, and are available for flushing the drains when the water-tanks are emptied.

The w.c. apparatus, which may be a Bristol glazed flush-out closet with water-waste preventing cistern, should have specially cast iron Y connections with the stack-pipes that there may be no joints in the thickness of the wall. The stoneware sinks may be fitted with $1\frac{3}{4}$ -inch glazed waste-pipes, with syphon traps and inspection inlets, discharging outside the building by a stack-pipe above the water line of a yard gulley-trap.

All the water-mains should be of galvanised wrought-iron pipe, and stop-cocks should be provided for shutting off the water from each separate tenement in the event of repairs being required.

FIRE HYDRANTS.

Fire hydrants should be provided at intervals in the courtyards; they would be found useful for watering and cleansing the courtyards as well as for the extinction of fire.

COST OF LAND AND BUILDINGS.

Details of cost are not easily obtainable, nor are the figures of executed schemes unfailing guides for the future.

Some undertakings owe their remunerative returns to the liberality of a ground landlord who has leased a site below its market value, as in the case on Lord Portman's estate in Lisson Grove, and on the Duke of Westminster's estate in Oxford Street. A marked contrast presents itself in the case of the Petticoat Square site, where the land cost the Commissioners of Sewers at the rate of £14 per square yard, including trade compensation to tenants for disturbance.

Mr. Moore, of the Improved Industrial Dwellings Company, calculates the average amount paid for freehold land by his company to be about 30s. per yard, the highest they have paid being £2 14s. 4½d. Mr. Moore calculates the present cost per room to be about £60, including w.c.'s, laundries, &c., the average weekly rent per room being now 2s. 1¼d.

TENANT PROPRIETORSHIP.

In view of the increasing political power and wage-earning capacity of the working classes, I venture to urge consideration of the question of tenant proprietorship. I believe myself right in saying that facilities for purchase have largely been taken advantage of by artisans in many towns in the North of England, where the encouragement of thrift, sobriety, and self-respect has been eminently beneficial to the tenants.

So important is this matter considered in France, that the "National Association for the study of questions relating to the improvement and construction of cheap dwellings," which is an outcome of the International Congress held in Paris during the Exhibition of last year, has devoted the whole of its first publication to details of a scheme adopted in Havre for giving facilities to artisans for the purchase of four-roomed cottages in their own walled gardens, by quarterly payments extending over 14 years, and amounting to 10 per cent. on the purchase money paid annually.

The chief distinguishing feature consists in the fact that when one-third the purchase money has been deposited, a conditional deed of conveyance is granted, which is saleable, and

this constitutes a marked departure from the lines of most of the Building Societies in our own country.

In London an association has recently been established under the auspices of the officers of the Leman Street Co-operative Wholesale Society, from the prospectus of which I quote the following :—

“The Society was formed in 1888 with the object of applying to the owning and letting of working men’s dwellings the principle of co-operation, which has proved so successful when applied to retail distribution.

“Fair rents, according to the current rates of the locality, are charged to the tenants, who must be members of the Society. After making proper provision for expenses, &c., a dividend, limited to 4 per cent., is paid on the share capital, and the remainder of the profits are divided amongst the tenants in proportion to the rents paid by them, and when so divided are carried to the credit of each tenant’s share account until he has so much capital in the Society as is equivalent to the value of the building inhabited by him. After such a period has been reached, the dwelling occupied by the tenant will remain the property of the Society, but he will be entitled to receive his share of surplus profit in cash.

“When a shareholder ceases to be a tenant, the Society will have the right at any time to purchase and extinguish his shares ; but in the event of the Society being unwilling to exercise this right, the shareholder will have the usual power of selling them.”

The rules provide that internal repairs shall be done when the Society deems necessary, and, unless carried out by the tenant of the repaired building, they will be charged against his share account.

Each estate is to be managed by a committee of tenants, and it will be to the interest of every member of the Society to find a tenant for an empty dwelling, as well as to see that his fellow members are careful with the Society’s property and pay their rent punctually.

The advantages offered are, a share in the increased value of the real property of the Metropolis caused by the growth of population ; an attractive and profitable mode of investing savings, an economy of rent, and the prospect of becoming capitalists.

It is too soon yet to judge of the success of the scheme, but the Society has already two small properties in full occupation, the one at Upton Park, the other at Penge. Am I unreasonable in suggesting the possibility of a scheme for appropriating to the erection of dwellings, in the form of loans,

some part of the rapidly-increasing resources of the Post Office Savings Bank, by affording facilities to depositors to convert their savings into shares, and thus extending the interest of artisans in a commercial enterprise of the greatest social value?

SUMMARY.

I have to express my thanks for your indulgent attention, and in conclusion, would summarise my observations as follows:—

1. That artisans' tenement dwellings need most careful planning and construction, to secure the healthfulness and moral welfare of the tenants.

2. That, in the interests of the artisan class, and for the relief of the congestion of our central districts, increased facilities should be afforded for residence in the outskirts by reorganised train-services at low fares.

3. That tenant proprietorship, which has elsewhere proved a boon to artisans, should be encouraged by all equitable means in the neighbourhood of London.

These remarks I commend to the earnest consideration of all those who have at heart the health and welfare of our artisans and labourers and their families, and especially to the members of The Sanitary Institute.

Mr. E. C. ROBINS (London) observed that the plans prepared by Mr. Hooper showed great improvements in modern industrial dwellings. One thing especially was important, and that was the private manner in which the buildings ought to be constructed. He objected to their looking like workhouses or warehouses, and pointed out that many people did not like to be associated with anything that looked like charity. In the dwellings over which he had some supervision he found there was a demand for separate water-closets, but this was an expensive arrangement, and perhaps the best thing to do was to give these closets a separate access. In cases where the houses had flat roofs some were used for the purpose of washing clothes, whilst others became drying-grounds, and some play-grounds. But they found that the inmates did not care about the wash-house being thus situated though they did not at all mind the roof being used as a drying-ground.

Mr. H. H. COLLINS (London) said with regard to a point raised by Mr. Robins that he thought, do what they would, this question of industrial dwellings must become one of charity. They could not then look like palaces, and if people wanted cheapness they must be content with a very small return for their outlay. The first question was that

of land. Artisans wanted to live in good neighbourhoods but did not care to pay the additional cost, forgetful or ignorant of the fact that when owners had to pay more than twopence per foot for land, it was impossible to secure the accommodation they wanted for two shillings a room. He disapproved of sculleries, closets, or corridors being in common. He found it cost him no less than £50 for each room of measurements something like $12 \times 14 \times 10$. However, instead of the artisan using them he found they became occupied by clerks and their families, so that their end was very different from what was intended. Then the rooms had to be of sufficient height—8 feet had been mentioned as the minimum—and he held in addition they should be fire-proof.

Dr. SYKES (London) spoke from his experience as a member of the Council of the National Dwellings Society, and held that the last block of artisans' dwellings that had been erected, that in Waterloo Square, Camberwell, was the very finest. The question was largely one of cost, and he thought instead of calling them artisans' dwellings, they would be more accurately described as dwellings at 2s. 6d. per week, or block dwellings, so as to distinguish them from ordinary private houses. Recently he had had occasion to enter into some research, concerning the number of persons that could be housed on a given space. Much depended of course on the conditions, one of the first of which was the width of the front and back space. The angle of incidence of light should be at least 45 deg. One of the chief things to be considered was economising space. In the Peabody system they got about four-fifths of their properties for dwelling purposes and the other fifth for access and accessories. With regard to sleeping and living-rooms, the usual amount of space was 300 feet per person for living-rooms, and 400 for sleeping and living when combined. This, he considered was not sufficient. Instead of 300 or 400 it ought to be 700 feet for each person. Whilst he recognised the necessity of providing wash-houses, coppers, coal-sheds and sinks, he thought that baths in industrial dwellings were a great mistake. He had found that the baths became blocked up with various items of furniture and were never used. The people did not like them, and he supposed a reason might be found in the fact that there was no hot water. If baths were to be adopted at all, he suggested that they should be erected in separate buildings fitted with hot-water pipes, and be placed under the charge of an attendant. He objected to any artificial systems of drainage or ventilation, for the people did not understand any but the simplest constructions and all others became speedily out of order. As to the question of charity, he did not know of any rooms that could be let for one shilling or one shilling and sixpence per week. The least he thought they could let single rooms for was two shillings and sixpence per week. In common lodging houses in London, the lowest charge was fourpence per night or two shillings and fourpence per week, and yet the County Council were thinking of exercising their charity (in spite of the Industrial Dwellings which were let, as he had shown, cheaper) by erecting a

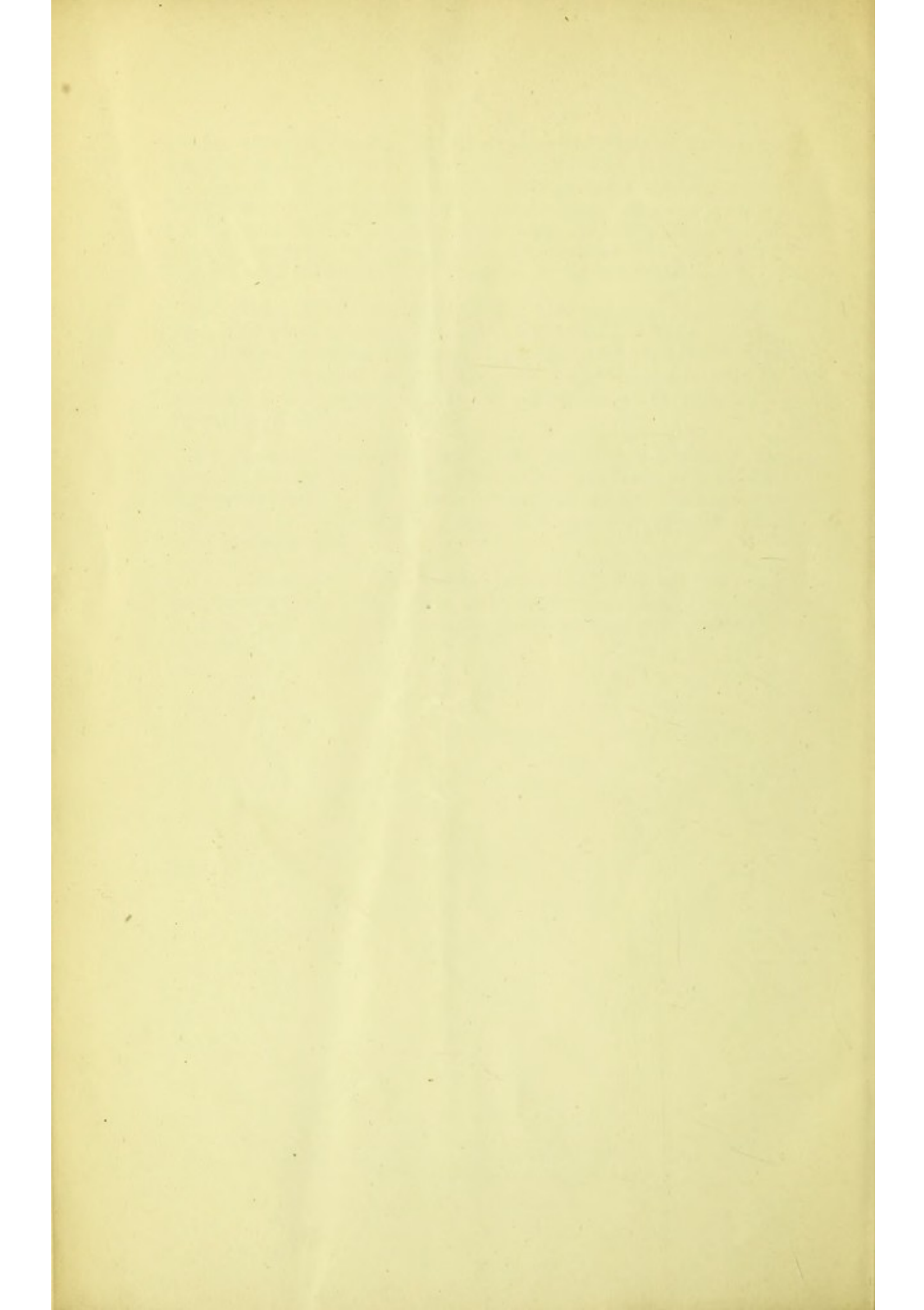
number of these houses. In his experience Industrial Dwellings could not be erected under £56 a room, and it was absurd therefore to think of letting them under two shillings and sixpence a week. With regard to the question of common closets, common corridors, and common things generally, these were the amenities of social communities living together, and the improvement that was wanted must come he thought from the manners of the people themselves.

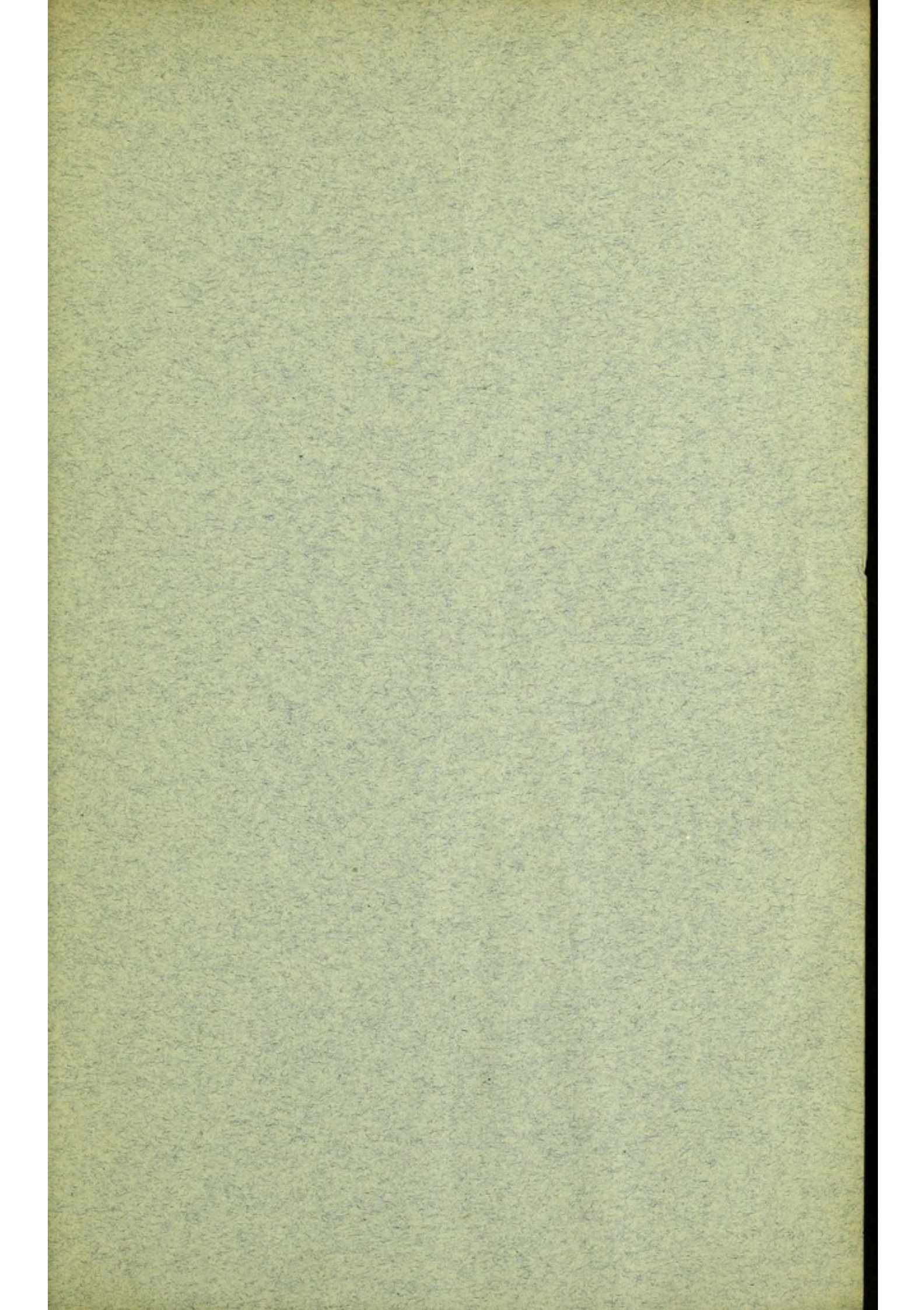
Mr. WILLIAM WHITE (London) had been asked to suggest that there should be a mortuary attached to Industrial Dwellings, and also that it would be a great advantage if provision could be made for gas stoves. With regard to ventilation he thought a flue should be constructed with openings near the ceiling, so as to ensure the circulation of air.

Mr. HOOPER (London), in reply, said that he had alluded in his paper to the dwellings in Glasgow, where provision was made for single room tenants. Recesses were made for the bed, the room was well ventilated, and it had a closet with sink and fuel stove and cooking implements.

The PRESIDENT of the Section pointed out, that if they made Industrial Buildings so perfect as to render them expensive, many artisans would prefer the cheaper dwellings that were already in existence.







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